

## CLAIMS

1. A resource handler for use in an operational support structure  
5 for managing a telecommunications network, comprising a service  
and resource database arrangement containing information regarding  
network resources,

c h a r a c t e r i z e d i n

10 that the database arrangement is structured so that each  
resource in the network has a time of existence as well as a place  
in a hierarchy of parent/child(s) relations, and

that the resource is defined by the following data:

a point (11) identifier that has characteristics associated  
to it, in the form of an abstract description of its capabilities;

15 an abstraction of the common network element (10) in the  
sense of a group of points (11) that are considered to belong  
together; and

a connection (12) which is defined by two connected points  
(11).

20 2. A resource handler according to claim 1,

c h a r a c t e r i z e d i n that the point (11) identifier also  
has characteristics associated to it, in the form of a list of  
label/value pairs.

25 3. A resource handler according to claim 1 or 2,

c h a r a c t e r i z e d i n that the element (10) acts as a  
container for points (11), with the implicit characteristic that  
points (11) on elements (10) are possible to cross-connect.

30 4. A resource handler according to any one of claims 1 to 3,

c h a r a c t e r i z e d i n that the database arrangement is

structured so as to model a topological view, e.g. how the resources are connected together.

5. A resource handler according to any one of claims 1 to 4, characterized in that the database arrangement is structured so as to model a time view, e.g. when the resources exist.

6. A resource handler according to any one of claims 1 to 5, characterized in that the database arrangement is structured so as to model a hierarchic view, e.g. how the resources are related in parent/child relationships.

7. A resource handler according to any one of claims 1 to 6, characterized in that the database arrangement is structured so as to model a characteristic view, e.g. by means of a list of characteristics of each resource.

8. A resource handler according to any one of claims 1 to 7, characterized in that the database arrangement is structured so as to model a usage view, i.e. which resources are combined to form a complete service instance and the time when that service instance exists.

9. A resource handler according to claims 4-8, characterized in that the topological view, the time view, the hierarchic view, the characteristic view and the usage view are integrated in a data model for enabling control of each resource and the use of it in service instances.

10. A resource handler according to any one of the preceding claims, characterized in that the database arrangement is separated into a first database containing resource

types and resource instances and a second database containing service types and service instances.

11. A resource handler according to any one of the preceding claims characterized in that resource and/or service attributes are typed and in that through said typing it is possible to distinguish between attribute types.

12. A method of structuring information in a resource handler database for use in an operational support structure for managing a telecommunications network, comprising a service and resource database arrangement containing information regarding network resources,

characterized in the steps of

allocating each resource in the network a time of existence as well as a place in a hierarchy of parent/child(s) relations, and

defining each resource by the following data:

a point (11) identifier that has characteristics associated to it, in the form of an abstract description of its capabilities;

an abstraction of the common network element (10) in the sense of a group of points (11) that are considered to belong together; and

a connection (12) which is defined by two connected points (11).

13. A method according to claim 12,

characterized in the step of associating the point (11) identifier with characteristics, in the form of a list of label/value pairs.

14. A method according to claim 12 or 13,

c h a r a c t e r i z e d in the step of allowing the element (10) to act as a container for points (11), with the implicit characteristic that points (11) on elements (10) are possible to cross-connect.

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15. A method according to any one of claims 12 to 14, c h a r a c t e r i z e d in the step of structuring the database arrangement so as to model a topological view, i.e. how the resources are connected together.

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16. A method according to any one of claims 12 to 15, c h a r a c t e r i z e d in the step of structuring the database arrangement so as to model a time view, i.e. when the resources exist.

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17. A method according to any one of claims 12 to 16, c h a r a c t e r i z e d in the step of structuring the database arrangement so as to model a hierarchic view, i.e. how the resources are related in parent/child relationships.

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18. A method according to any one of claims 12 to 17, c h a r a c t e r i z e d in the step of structuring the database arrangement so as to model a characteristic view, i.e. by means of a list of characteristics of each resource.

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19. A method according to any one of claims 12 to 18, c h a r a c t e r i z e d in the step of structuring the database arrangement so as to model a usage view, i.e. which resources are combined to form a complete service instance and the time when that service instance exists.

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20. A method according to claims 15-19,

5 c h a r a c t e r i z e d in the step of integrating the topological view, the time view, the hierarchic view, the characteristic view and the usage view in a data model for enabling control of each resource and the use of it in service instances.

21. A method according to any one of claims 12-20,

c h a r a c t e r i z e d in that it comprises the steps of:

- 10 - separating the database arrangement into two separate databases,
- keeping resource type data and resource instance data in one of said separate databases,
- keeping service type data and service instance data in the other of said separate databases.

15 22. A method according to any one of claims 12-20,

c h a r a c t e r i z e d in that it comprises the steps of:

- 20 - assigning types to resource and/or service attributes,
- using said attribute types to distinguish between different types of attributes.

23. A use of a resource handler according to anyone of claims 1 to 11 for a service type handler in an operational support structure for a telecommunications network, for creating and maintaining  
25 service type recipes and their relations.

24. A use according to claim 23, wherein the service type recipes provides a framework for service types, operations on service types, parameters on service types, hierarchical relations between  
30 service types, hierarchical parameter relationship, and translation of service types and associated parameters values into resource requirements and service type requirements.

25. A use according to anyone of claims 23-24, for selecting between different types of required services, different types of required resources and different service instances.

5 26. A use according to claim 25, wherein the selected resources requirements are transferred to a resource handler that does the actual resource allocation.

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